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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/524,737

02/16/2005

Jens Heydecke

B-7222

1749

7590 03/13/2009
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EXAMINER

PHASGE, ARUN S

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

03/13/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/524,737	Applicant(s) HEYDECKE ET AL.	
	Examiner Arun S. Phasge	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 December 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-20 and 23-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-20, 23-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Terminal Disclaimer

The terminal disclaimer filed on 12/23/08 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of patent 6,379,517 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 17-20, 23-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heydecke et al. (Heydecke), WO 00/23637 in view of Mani applied of record.

The Heydecke publication discloses the claimed electrodialysis device and method for the treatment of an electroless deposition bath comprising electrodialysis arrangements each having diluate compartments for holding the metal plating bath, concentrate compartments that are separated from the diluate compartments through ion exchange membranes and are intended to hold a concentrate fluid serving to adsorb

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interfering substances that are to be removed from the metal plating bath as well as anodes and cathodes, wherein said electro dialysis arrangements include: a first electro dialysis arrangement having alternating concentrate compartments and diluate compartments as well as cathodes and anodes, the diluate compartments being each separated on the cathode side thereof from a neighboring concentrate compartment by a monoselective cation exchange membrane and on the anode side thereof from a neighboring concentrate compartment by an anion exchange membrane and a second electro dialysis arrangement having alternating diluate compartments and concentrate compartments as well as cathodes and anodes, the concentrate compartments being each separated on the cathode side thereof from a neighboring diluate compartment by an anion exchange membrane and on the anode side thereof from a neighboring diluate compartment by a monoselective anion exchange membrane, so that the metal plating bath can be conducted simultaneously through all of the diluate compartments in the two electro dialysis arrangements, the arrangements being connected in parallel, and the concentrate fluid being conducted through all of the concentrate compartments in the two electro dialysis arrangements, and wherein said device includes current supplies for the cathodes and the anodes of the first electro dialysis arrangement and of the second electro dialysis arrangement (see figures 1-3, Abstract and claims 1-13).

With regards to the method claims, Heydecke discloses method for regenerating an electroless metal plating bath, comprising conducting the metal plating bath through the respective diluate compartments of electro dialysis arrangements and conducting a

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concentrate fluid, serving to adsorb interfering substances that are to be removed from the metal plating bath, through respective concentrate compartments of the electrodialysis arrangements, said concentrate compartments being separated from the diluate compartments by ion exchange membranes, wherein the metal plating bath is conducted through diluate compartments in a first electrodialysis arrangement comprising alternating concentrate compartments and diluate compartments as well as cathodes and anodes, the diluate compartments being each separated on the cathode side thereof from a neighboring concentrate compartment by a monoselective cation exchange membrane and on the anode side thereof from a neighboring concentrate compartment by an anion exchange membrane, wherein the metal plating bath is conducted through diluate compartments in a second electrodialysis arrangement comprising alternating the diluate compartments and concentrate compartments as well as cathodes and anodes, the concentrate compartments being each separated on the cathode side thereof from a neighboring diluate compartment by an anion exchange membrane and on the anode side thereof from a neighboring diluate compartment by a monoselective anion exchange membrane, and wherein the metal plating bath is simultaneously conducted through all of the diluate compartments in the two electrodialysis arrangements, the arrangements being connected in parallel, and the concentrate fluid being conducted through all of the concentrate compartments in the two electrodialysis equipments (see abstract figures 1-3 and claims 1-13).

The Heydecke patent does not disclose the use of the ion exchange resin in conjunction with the concentrate with the tanks and circuits as claimed. The Mani

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patent is cited to show the conventional use of tanks and flow circuits as claimed (see figures 5-13 and col. 12, lines 1-50).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Heydecke by the teachings of Mani.

One having ordinary skill in the art would have been motivated to do this modification, because the Mani patent teaches the conventional use of tanks and circuits to allow the further purification of solutions obtained by electrodialysis in an ion exchange column and allows the maintaining of multivalent metal cations concentrations at a level low enough to obtain long term trouble-free operation of the electrodialysis process (see col. 12, lines 40-43).

Response to Arguments

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arun S. Phasge whose telephone number is (571) 272-1345. The examiner can normally be reached on MONDAY-THURSDAY, 7:30-6:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam X. Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Arun S. Phasge/
Primary Examiner, Art Unit 1795

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